

1. (Currently amended) A partially cured reinforced polymeric article ~~which includes~~
comprising:

one or more layers, each of the layers including:

a reinforcing web;

a partially cured cross-linkable polymeric composition being formed from:

an ultra-violet (UV) curable polymeric resin; and

at least one of a photoinitiator; or a combination of a photoinitiator

and a thermal initiator,

wherein the polymeric resin and photoinitiator are ~~selected~~ configured to permit a
formation of the partially cured cross-linkable polymeric composition in less than
approximately 120 seconds.

2. (Currently amended) A polymeric article according to claim 1, wherein the partially
cured cross-linkable polymeric composition is formed in approximately 5 to 60 seconds.

3. (Currently amended) A polymeric article according to claim 2, wherein the partially
cured cross-linkable polymeric composition is formed in approximately 10 to 45 seconds.

4. (Currently amended) A polymeric article according to ~~any one of~~ claims 1, ~~to 3~~ wherein
~~there are~~ the one or more layers include two or more layers and the layers are of
substantially the same thickness.

5. (Currently amended) A polymeric article according ~~any one of~~ claims 1, ~~to 3~~ wherein
~~there are~~ the one or more layers include two or more layers and one or more of the layers
is of a differing thickness from another one ~~other~~ of the layers in the article.

6. (Currently amended) A polymeric article according to ~~any one of~~ claims 1, ~~to~~ 5 wherein ~~there are~~ the one or more layers include two or more layers and one or more of the layers includes a reinforcing web of differing material from the material of another ~~one other of~~ the layers in the article.

7. (Currently amended) A polymeric article according to ~~any one of~~ claims 1, ~~to~~ 6 wherein the cross-linkable polymeric composition is present in an amount between approximately 10% and 90% by weight.

8. (Currently amended) A polymeric article according to claim 7, wherein the cross linkable polymeric composition is present in an amount between approximately 25% and 75% by weight.

9. (Currently amended) A polymeric article according to claim 8, wherein the cross linkable polymeric composition is present in an amount between approximately 35% and 65% by weight.

10. (Currently amended) A polymeric article according to ~~any one of~~ claims 1, ~~to~~ 9 wherein the article has a weight of from approximately 20 to 2000 g/m².

11. (Currently amended) A polymeric article according to claim 10, wherein the article has a weight of from approximately 100 to 1500 g/m².

12. (Currently amended) A polymeric article according to claim 11, wherein the article has a weight of from approximately 500 to 1000 g/m².

13. (Currently amended) A polymeric article according to ~~any one of claims 1, to 12~~ wherein the reinforcing web is ~~selected from~~ at least one or more of ~~the group consisting~~ of glass fibres; carbon and graphite fibres, polymeric fibres, boron filaments, ceramic fibres, metal fibres, asbestos fibres, beryllium fibres, silica fibres and silicon carbide fibres.

14. (Currently amended) A polymeric article according to claim 13, wherein the glass fibres are in the form of fibreglass sheets or matts.

15. (Currently amended) A polymeric article according to ~~any one of claims 1, to 14~~ wherein the UV curable polymeric resin is at least one of ~~selected from the group consisting of~~ a curable polyester, a vinyl ester resin, a epoxy vinyl ester resin and a bisphenol-A epoxy resin.

16. (Currently amended) A polymeric article according to ~~any one of claims 1, to 15~~ wherein the photoinitiator is present in an amount of from 0. 01% to 5% by weight.

17. (Currently amended) A polymeric article according to claim 16, wherein the photoinitiator is present in an amount of from 0. 1% to 0.2% by weight.

18. (Currently amended) A polymeric article according to ~~any one of claims 1, to 17~~ wherein the photoinitiator is selected from the group consisting of Ciba Geigy Irgacure 819, Ciba Geigy Irgacure 184 (1-hydroxy cyclohexyl phenyl ketone), Ciba Geigy Irgacure 654 (benzildimethyl ketal), Ciba Geigy Irgacure 907 (2-methyl-1- {4- (methylthio) phenyl}-2-morpholino-propanone-1), Merck Darocur 1664, Rohm Catalyst 22, Alcolac Vicure 10

(isobutyl benzoin ether), Alcolac Vicure 30 (isobutyl benzoin ether), and Alcolac Vicure 55 (55) (methyl phenyl glyoxylate phenyl ketone).

19. (Currently amended) A polymeric article according to ~~any one of claims 1, to 18~~ wherein the thermal initiator, if present, is selected from the group consisting of peroxides, 1, 1-di-tert-butyl peroxy-3,3, 5-trimethylcyclohexane, and sec-isopropyl percarbonate or a combination thereof.

20. (Currently amended) A polymeric article according to ~~any one of claims 1 to 19~~, wherein the cross-linkable polymeric composition further includes an additive or modifier selected from the group consisting of inhibitors, UV stabilisers, UV absorbers, antioxidants, tinting agents, transfer agents, viscosity modifiers, adhesion promoters/modifiers, colourants, fire resistance agents, antistatic agents, fillers, heat stabilisers, thixotropic agents, slip and blocking agents, and air release agents or a combination thereof.

21. (Currently amended) A process for preparing a partially cured reinforced polymeric article ~~including~~ comprising:

providing one or more layers, each layer including:

a reinforcing web; and

an effective amount of a cross-linkable polymeric composition including at

least one of:

a UV curable polymeric resin and a photoinitiator; or a combination of

a photoinitiator and a thermal catalyst;

impregnating the reinforcing web with the cross-linkable polymeric composition;
and
exposing the impregnated web to a source of ultraviolet (UV) radiation for a period of less than approximately 120 seconds, at an intensity sufficient to partially cure the resin.

22. (Currently amended) A process according to claim 21, wherein the impregnated web is exposed to ultraviolet (UV) radiation for a period of from approximately 5 to 60 seconds.

23. (Currently amended) A process according to claim 22, wherein the impregnated web is exposed to ultraviolet (UV) radiation for a period of from 10 to 45 seconds.

24. (Currently amended) A process according to ~~any one of~~ claims 21, ~~to 23~~ wherein the intensity of the ultraviolet (UV) radiation is from approximately 1×10^{-5} to 10×10^{-7} W/cm².

25. (Currently amended) A process according to claim 24, wherein the intensity of the ultraviolet (UV) radiation is from approximately 5×10^{-5} and 5×10^{-6} W/cm².

26. (Currently amended) A process according to ~~any one of~~ claims 21, ~~to 25~~ wherein the polymeric article includes two or more layers, and the layers are of substantially the same thickness.

27. (Currently amended) A process according to ~~any one of~~ claims 21, ~~to 25~~ wherein the polymeric article includes two or more layers, and one or more of the layers is of differing thickness from another one ~~either~~ the layers in the article.

28. (Currently amended) A process according to ~~any one of~~ claims 21₁ to 27 wherein the polymeric article includes two or more layers, and one or more of the layers includes a reinforcing web of differing material from the material of another one of the layers in the article.

29. (Currently amended) A process according to ~~any one of~~ claims 21₁ to 25 wherein the reinforcing web ~~is selected from~~ includes at least one or more of the group consisting of glass fibres; carbon and graphite fibres, polymeric fibres, boron filaments, ceramic fibres, metal fibres, asbestos fibres, beryllium fibres, silica fibres and silicon carbide fibres.

30. (Currently amended) A process according to claim 29₁ wherein the glass fibres are in the form of fibreglass sheets or matts.

31. (Currently amended) A process according to ~~any one of~~ claims 21₁ to 30 wherein the UV curable polymeric resin ~~is selected from the group consisting~~ includes at least one of a curable polyester, a vinyl ester resin, a epoxy vinyl ester resin and a bisphenol-A epoxy resin.

32. (Currently amended) A process according to ~~any one of~~ claims 21₁ to 31 wherein the photoinitiator is present in an amount of from 0.01% to 5% by weight.

33. (Currently amended) A process according to claim 32₁ wherein the photoinitiator is present in an amount of from 0.1 % to 0.2% by weight.

34. (Currently amended) A process according to ~~any one of~~ claims 21₁ to 33 wherein the photoinitiator is selected from the group consisting of Ciba Geigy Irgacure 819, Ciba Geigy Irgacure 184 (1-hydroxy cyclohexyl phenyl ketone), Ciba Geigy Irgacure 654

(benzildimethyl ketal), Ciba Geigy Irgacure 907 (2-methyl-1- (4- (methylthio) phenyl)-2-morpholino-propanone-1), Merck Darocur 1664, Rohm Catalyst 22, Alcolac Vicure 10 (isobutyl benzoin ether), Alcolac Vicure 30 (isobutyl benzoin ether), and Alcolac Vicure 55 (55) (methyl phenyl glyoxylate phenyl ketone).

35. (Currently amended) A process according to ~~any one of~~ claims 21, ~~to~~ 34 wherein the thermal initiator, if present, is selected from the group consisting of peroxides, 1,1- di-tert-butyl peroxy-3,3, 5-trimethylcyclohexane, and sec-isopropyl percarbonate or a combination thereof.

36. (Currently amended) A process according to ~~any one of~~ claims 21, ~~to~~ 35 wherein the cross- linkable polymeric composition further includes an additive or modifier selected from the group consisting of inhibitors, UV stabilisers, UV absorbers, antioxidants, tinting agents, transfer agents, viscosity modifiers, adhesion promoters/modifiers, colourants, fire resistance agents, antistatic agents, fillers, heat stabilisers, thixotropic agents, slip and blocking agents, and air release agents or a combination thereof.

37. (Currently amended) A laminate polymeric article ~~including~~ comprising:

a partially cured reinforced polymeric article which includes one or more layers, each layer including:

a reinforcing web;

a partially cured cross-linkable polymeric composition formed from:

an ultraviolet (UV) curable polymeric resin; and

a photoinitiator; or a combination of a photoinitiator and a thermal initiator; wherein the polymeric resin and the photoinitiator are

~~selected~~ configured to permit formation of the partially cured cross-linkable polymeric composition in less than approximately 120 seconds; and
a ~~first~~ protective coating or film overlaying at least a portion of a surface of the reinforced polymeric article.

38. (Currently amended) A laminate polymeric article according to claim 37, wherein the partially cured cross-linkable polymeric composition is formed in approximately 5 to 60 seconds.

39. (Currently amended) A laminate polymeric article according to claim 38, wherein the partially cured cross-linkable polymeric composition is formed in approximately 10 to 45 seconds.

40. (Currently amended) A laminate polymeric article according to ~~any one of~~ claims 37, ~~to 39~~ wherein ~~there are~~ the one or more layers include two or more layers and the layers are of substantially the same thickness.

41. (Currently amended) A laminate polymeric article according to ~~any one of~~ claims 37, ~~to 39~~ wherein ~~there are~~ the one or more layers include two or more layers and one or more of the layers is of a differing thickness from another one ~~other~~ the layers in the article.

42. (Currently amended) A laminate polymeric article according to ~~any one of~~ claims 37, ~~to 41~~ wherein ~~there are~~ the one or more layers include two or more layers and one or

more of the layers includes a reinforcing web of differing material from the material of another one ~~other~~ the layers in the article.

43. (Currently amended) A laminate polymeric article according to ~~any one of~~ claims 37₁ to 42 wherein the cross-linkable polymeric composition is present in an amount between approximately 10 and 90% by weight.

44. (Currently amended) A laminate polymeric article according to claim 43₁ wherein the cross linkable polymeric composition is present in an amount between approximately 25% and 75% by weight.

45. (Currently amended) A laminate polymeric article according to claim 44₁ wherein the cross linkable polymeric composition is present in an amount between approximately 35% and 65% by weight.

46. (Currently amended) A laminate polymeric article according to ~~any one of~~ claims 43₁ to 45 wherein the article has a weight of from approximately 20 to 2000 g/m².

47. (Currently amended) A laminate polymeric article according to claim 46₁ wherein the article has a weight of from approximately 100 to 1500 g/m².

48. (Currently amended) A laminate polymeric article according to claim 47₁ wherein the article has a weight of from approximately 500 to 1000 g/m².

49. (Currently amended) A laminate polymeric article according to ~~any one of~~ claims 37₁ to 48 wherein the partially cured reinforced polymeric article includes two or more layers and the layers are of substantially the same thickness.

50. (Currently amended) A laminate polymeric article according to ~~any one of~~ claims 37, ~~to 48~~ wherein the partially cured reinforced polymeric article includes two or more layers and one or more of the layers is of differing thickness from another one ~~either of the~~ layers in the article.

51. (Currently amended) A laminate polymeric article according to ~~any one of~~ claims 37, ~~to 50~~ wherein the partially cured reinforced polymeric article includes two or more layers and one or more of the layers includes a reinforcing web of differing material from the material of another one ~~either of the~~ layers in the article.

52. (Currently amended) A laminate polymeric article according to ~~any one of~~ claims 37, ~~to 54~~ wherein the protective coating or layer is applied to one major surface of the polymeric article.

53. (Currently amended) A laminate polymeric article according to ~~any one of~~ claims 37, ~~to 54~~ wherein the protective coating or layer is applied to both major surfaces of the polymeric article.

54. (Currently amended) A laminate polymeric article according to ~~any one of~~ claims 37, ~~to 53~~ wherein the first protective coating or film is a polymeric film or sheet.

55. (Currently amended) A laminate polymeric article according to claim 54, wherein the polymeric film or sheet is a thermoplastic polymeric film.

56. (Currently amended) A laminate polymeric article according to claim 55, wherein the thermoplastic polymeric film includes at least one ~~is selected from the group consisting of~~ polyethylene, polypropylene or nylon film.

57. (Currently amended) A laminate polymeric article according to ~~any one of~~ claims 37, ~~to 56~~ wherein the first protective coating or film is UV opaque.

58. (Currently amended) A laminate polymeric article according to ~~any one of~~ claims 37, ~~to 57~~ further comprising ~~including~~ a UV opaque outer coating overlaying, at least in part, an exposed surface of the partially cured reinforced polymeric article or the^{first} protective coating or film.

59. (Currently amended) A laminate polymeric article according to claim 58, wherein the UV opaque outer coating is a metal foil.

60. (Currently amended) A laminate polymeric article according to ~~any one of~~ claims 37, ~~to 59~~ wherein the reinforcing web is at least one ~~selected from one or more of the group consisting of~~ glass fibres; carbon and graphite fibres, polymeric fibres, boron filaments, ceramic fibres, metal fibres, asbestos fibres, beryllium fibres, silica fibres and silicon carbide fibres.

61. (Currently amended) A laminate polymeric article according to claim 60, wherein the glass fibres are in the form of fibreglass sheets or matts.

62. (Currently amended) A laminate polymeric article according to ~~any one of~~ claims 37, ~~to 61~~ wherein the UV curable polymeric resin is at least one ~~selected from the group consisting of~~ a curable polyester, a vinyl ester resin, a epoxy vinyl ester resin and a bisphenol-A epoxy resin.

63. (Currently amended) A laminate polymeric article according to ~~any one of~~ claims 37, ~~to 62~~ wherein the photoinitiator is present in an amount of from 0.01 % to 5% by weight.

64. (Currently amended) A laminate polymeric article according to claim 63, wherein the photoinitiator is present in an amount of from 0.1% to 0.2% by weight.

65. (Currently amended) A laminate polymeric article according to ~~any one of~~ claims 37, ~~to 64~~ wherein photoinitiator is selected from the group consisting of Ciba Geigy Irgacure 819, Ciba Geigy Irgacure 184 (1-hydroxy cyclohexyl phenyl ketone), Ciba Geigy Irgacure 654 (benzildimethyl ketal), Ciba Geigy Irgacure 907 (2-methyl-1- {4- (methylthio) phenyl}-2-morpholino-propanone-1), Merck Darocur 1664, Rohm Catalyst 22, Alcolac Vicure 10 (isobutyl benzoin ether), Alcolac Vicure 30 (isobutyl benzoin ether), and Alcolac Vicure 55 (55) (methyl phenyl glyoxylate phenyl ketone).

66. (Currently amended) A laminate polymeric article according to ~~any one of~~ claims 37, ~~to 65~~ wherein the thermal initiator, if present, is selected from the group consisting of peroxides, 1, 1-di-tert-butyl peroxy-3,3, 5-trimethylcyclohexane, and sec-isopropyl percarbonate or a combination thereof.

67. (Currently amended) A laminate polymeric article according to ~~any one of~~ claims 37, ~~to 66~~ wherein the cross-linkable polymeric composition further includes an additive or modifier selected from the group consisting of inhibitors, UV stabilisers, UV absorbers, antioxidants, tinting agents, transfer agents, viscosity modifiers, adhesion promoters/modifiers, colourants, fire resistance agents, antistatic agents, fillers, heat stabilisers, thixotropic agents, slip and blocking agents, and air release agents or a combination thereof.

68. (Currently amended) A process of forming a shaped article ~~including~~ comprising:

shaping one or more partially cured reinforced polymeric articles which include one or more layers, each layer including:

a reinforcing web;

a partially cured cross-linkable polymeric composition formed from:

an ultraviolet (UV) curable polymeric resin; and

a photoinitiator; or a combination of a photoinitiator and a thermal initiator; wherein the polymeric resin and the photoinitiator are

~~selected~~ configured to permit formation of the partially cured cross-linkable polymeric composition in less than approximately 120 seconds;

shaping one or more partially cured reinforced polymeric articles into a desired form; and

curing ~~subjecting~~ the formed article ~~to a final curing step.~~

69. (Currently amended) A process according to claim 68, wherein the partially cured cross-linkable polymeric composition is formed in approximately 5 to 60 seconds.

70. (Currently amended) A process according to claim 69, wherein the partially cured cross-linkable polymeric composition is formed in approximately 10 to 45 seconds.

71. (Currently amended) A process according to ~~any one of~~ claims 68, ~~to 70~~ wherein the partially cured reinforced polymeric article includes two or more layers and the layers are of substantially the same thickness.

72. (Currently amended) A process according to ~~any one of~~ claims 68₁ to 70 wherein the partially cured reinforced polymeric article includes two or more layers and one or more layers is of differing thickness from one other layer in the article.

73. (Currently amended) A process according to ~~any one of~~ claims 68₁ to 72 wherein the partially cured reinforced polymeric article includes two or more layers and one or more of the layers includes a reinforcing web of differing material from the material of another one ~~other of the~~ layers in the article.

74. (Currently amended) A process according to ~~any one of~~ claims 68₁ to 73 wherein the ~~final~~ curing step includes exposing the formed article to UV radiation.

75. (Currently amended) A process according to ~~any one of~~ claims 68₁ to 74 wherein the ~~final~~ curing step includes a ~~method involving~~ applying heat and pressure to the formed articles.

76. (Currently amended) A process according to claim 74₁ wherein the UV radiation has an intensity of from approximately 1×10^{-4} to 1×10^{-6} W/cm².

77. (Currently amended) A process according to claim 76₁ wherein the UV radiation has an intensity of from approximately 5×10^{-4} to 5×10^{-6} W/cm².

78. (Currently amended) A process according to ~~any one of~~ claims 74₁ to 77 wherein the formed article is exposed to UV radiation for a period of from approximately 0.5 to 120 minutes.

79. (Currently amended) A process according to claim 78₁ wherein the formed article is exposed to UV radiation for a period of from approximately 10 to 45 minutes.

80. (Currently amended) A process according to claim 74₁ wherein the ~~final~~ curing step includes subjecting the formed article to a thermal curing.

81. (Currently amended) A process according to claim 80, wherein the temperature of the thermal curing is between approximately 50 and 150°C.

82. (Currently amended) A process according to claim 81₁ wherein the temperature of the thermal curing is between approximately 65 and 100°C.

83. (Currently amended) A process according to claim 75₁ wherein the pressure applied during the ~~final-cure~~ curing step is between approximately 30 and 100 psi.

84. (Currently amended) A process according to claim 83₁ wherein the pressure applied during the ~~final-cure~~ curing step is between approximately 50 and 70 psi.

85. (Currently amended) A process according to ~~any one of claims 68₁ to 84~~ wherein the reinforcing web is at least one ~~selected from one or more of the group consisting of~~ glass fibres; carbon and graphite fibres, polymeric fibres, boron filaments, ceramic fibres, metal fibres, asbestos fibres, beryllium fibres, silica fibres and silicon carbide fibres.

86. (Currently amended) A process according to claim 85₁ wherein the glass fibres are provided in the form of fibreglass sheets or matts.

87. (Currently amended) A process according to ~~any one of claims 68₁ to 86~~ wherein the UV curable polymeric resin is at least one ~~selected from the group consisting~~ of a curable polyester, a vinyl ester resin, a epoxy vinyl ester resin and a bisphenol-A epoxy resin.

88. (Currently amended) A process according to ~~any one of claims 68₁ to 87~~ wherein the photoinitiator is present in an amount of from 0. 01 % to 5% by weight.

89. (Currently amended) A process according to claim 88₁ wherein the photoinitiator is present in an amount of from 0. 1% to 0.2% by weight.

90. (Currently amended) A process according to ~~any one of claims 68₁ to 89~~ wherein the photoinitiator is selected from the group consisting of Ciba Geigy Irgacure 819, Ciba Geigy Irgacure184 (1-hydroxy cyclohexyl phenyl ketone), Ciba Geigy Irgacure 654 (benzildimethyl ketal), Ciba Geigy Irgacure 907 (2-methyl-1-{4- (methylthio) phenyl}-2-morpholino-propanone-1), Merck Darocur 1664, Rohm Catalyst 22, Alcolac Vicure 10 (isobutyl benzoin ether), Alcolac Vicure 30 (isobutyl benzoin ether), and Alcolac Vicure 55 (55) (methyl phenyl glyoxylate phenyl ketone).

91. (Currently amended) A process according to ~~any one of claims 68₁ to 90~~ wherein the thermal initiator, if present, is selected from the group consisting of peroxides, 1,1- di-tert-butyl proxy-3, 3, 5-trimethylcyclohexane, and sec-isopropyl percarbonate or a combination thereof.

92. (Currently amended) A process according to ~~any one of claims 68₁ to 91~~ wherein the cross- linkable polymeric composition further includes an additive or modifier selected from the group consisting of inhibitors, UV stabilisers, UV absorbers, antioxidants, tinting

agents, transfer agents, viscosity modifiers, adhesion promoters/modifiers, colourants, fire resistance agents, antistatic agents, fillers, heat stabilisers, thixotropic agents, slip and blocking agents, and air release agents or a combination thereof.

93. (Currently amended) A cured shaped article comprising:

one or more partially cured, shaped and reinforced polymeric portions which include one or more layers, each layer including:

a reinforcing web,

a partially cured cross-linkable polymeric composition formed from:

an ultraviolet (UV) curable polymeric resin, and

a photoinitiator or a combination of a photoinitiator and a thermal

initiator; wherein the polymeric resin and the photoinitiator are

configured to permit formation of the partially cured cross-linkable

polymeric composition in less than approximately 120 seconds; and

one or more partially cured reinforced polymeric portions which are shaped into a desired form, wherein the formed polymeric portions are cured ~~formed by a process according to any one of claims 68 to 92.~~